

Appl. No. : 10/017,920
Filed : December 11, 2001

AMENDMENTS TO THE CLAIMS

1. (PREVIOUSLY PRESENTED) An accommodating intraocular lens for implantation in an eye having an optical axis, said lens comprising:

an anterior portion comprised of a viewing element, said anterior viewing element comprised of an optic having a refractive portion with a refractive power of less than 55 diopters;

a posterior portion comprised of a viewing element;

said lens having an optical axis which is adapted to be substantially coincident with the optical axis of the eye upon implantation of said lens;

said posterior viewing element comprising an optic arranged substantially coaxially with said anterior optic on said optical axis of said lens, said posterior optic having a larger diameter than said refractive portion of said anterior optic, said posterior optic comprising a peripheral portion having positive refractive power and extending radially away from said optical axis of said lens beyond the periphery of said refractive portion of said anterior optic, so that at least a portion of the light rays incident upon the posterior optic can bypass said refractive portion of said anterior optic;

wherein said anterior optic and said posterior optic are configured to move relative to each other along said optical axis of said lens between an accommodated state and an unaccommodated state in response to force on said intraocular lens by the ciliary muscle of the eye, said anterior optic and said posterior optic being separated when in the accommodated state.

2. (ORIGINAL) The lens of Claim 1, wherein said refractive portion of said anterior optic has a diameter of about 3 millimeters or less.

3. (ORIGINAL) The lens of Claim 1, wherein said anterior optic further comprises a peripheral portion extending radially outward from said refractive portion away from said optical axis of said lens, said peripheral portion of said anterior optic having substantially zero refractive power.

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4. (ORIGINAL) The lens of Claim 1, wherein said posterior optic further comprises a central portion extending radially inward from said peripheral portion toward said optical axis of said lens, said central portion having a negative refractive power.

5. (ORIGINAL) The lens of Claim 1, wherein said refractive portion of said anterior optic has a refractive power of less than 30 diopters.

6. (CURRENTLY AMENDED) An accommodating intraocular lens for implantation in an eye having an optical axis, said lens comprising: The lens of Claim 1,

an anterior portion comprised of a viewing element, said anterior viewing element comprised of an optic having a refractive portion with a refractive power of less than 55 diopters;

a posterior portion comprised of a viewing element;

said lens having an optical axis which is adapted to be substantially coincident with the optical axis of the eye upon implantation of said lens;

said posterior viewing element comprising an optic arranged substantially coaxially with said anterior optic on said optical axis of said lens, said posterior optic having a larger diameter than said refractive portion of said anterior optic, said posterior optic comprising a peripheral portion having positive refractive power and extending radially away from said optical axis of said lens beyond the periphery of said refractive portion of said anterior optic, so that at least a portion of the light rays incident upon the posterior optic can bypass said refractive portion of said anterior optic;

wherein said anterior optic and said posterior optic are configured to move relative to each other along said optical axis of said lens between an accommodated state and an unaccommodated state in response to force on said intraocular lens by the ciliary muscle of the eye, said anterior optic and said posterior optic being separated when in the accommodated state;

wherein said peripheral portion of said posterior optic has a refractive power of about 20 diopters.

7. (PREVIOUSLY PRESENTED) An accommodating intraocular lens for implantation in an eye having an optical axis, said lens comprising:

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an anterior portion comprised of a viewing element, said anterior viewing element comprised of an optic having a refractive power of less than 55 diopters;

a posterior portion comprised of a viewing element;

said lens having an optical axis which is adapted to be substantially coincident with the optical axis of the eye upon implantation of said lens;

said posterior viewing element comprising an optic arranged substantially coaxially with said anterior optic on said optical axis of said lens, said posterior optic having a larger diameter than said anterior optic, said posterior optic comprising a peripheral portion having positive refractive power and extending radially away from said optical axis of said lens beyond the periphery of said anterior optic, so that at least a portion of the light rays incident upon the posterior optic can bypass said anterior optic;

wherein said anterior portion and said posterior portion are configured to move relative to each other along said optical axis of said lens between an accommodated state and an unaccommodated state in response to force on said intraocular lens by the ciliary muscle of the eye, said anterior optic and said posterior optic being separated by a greater distance in the accommodated state than in the unaccommodated state.

8. (ORIGINAL) The lens of Claim 7, wherein said anterior optic has a diameter of about 3 millimeters or less.

9. (ORIGINAL) The lens of Claim 7, wherein said posterior optic further comprises a central portion extending radially inward from said peripheral portion toward said optical axis of said lens, said central portion having a negative refractive power.

10. (ORIGINAL) The lens of Claim 7, wherein said anterior optic has a refractive power of less than 30 diopters.

11. (CURRENTLY AMENDED) An accommodating intraocular lens for implantation in an eye having an optical axis, said lens comprising: The lens of Claim 7,
an anterior portion comprised of a viewing element, said anterior viewing element comprised of an optic having a refractive power of less than 55 diopters;
a posterior portion comprised of a viewing element;

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said lens having an optical axis which is adapted to be substantially coincident with the optical axis of the eye upon implantation of said lens;

said posterior viewing element comprising an optic arranged substantially coaxially with said anterior optic on said optical axis of said lens, said posterior optic having a larger diameter than said anterior optic, said posterior optic comprising a peripheral portion having positive refractive power and extending radially away from said optical axis of said lens beyond the periphery of said anterior optic, so that at least a portion of the light rays incident upon the posterior optic can bypass said anterior optic;

wherein said anterior portion and said posterior portion are configured to move relative to each other along said optical axis of said lens between an accommodated state and an unaccommodated state in response to force on said intraocular lens by the ciliary muscle of the eye, said anterior optic and said posterior optic being separated by a greater distance in the accommodated state than in the unaccommodated state;

wherein said peripheral portion of said posterior optic has a refractive power of about 20 diopters.

12. (CANCELLED)

13. (CANCELLED)

14. (CANCELLED)

15. (CURRENTLY AMENDED) An accommodating intraocular lens for implantation in an eye having an optical axis, said lens comprising:

an anterior portion comprised of a viewing element;

a posterior portion comprised of a viewing element;

said lens having an optical axis which is adapted to be substantially coincident with the optical axis of the eye upon implantation of said lens, said anterior portion being configured to move relative to said posterior portion along said optical axis of said lens in response to force on said intraocular lens by the ciliary muscle of the eye;

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said posterior viewing element comprising an optic, said posterior optic comprising an inner portion and a peripheral portion, said inner portion having a first refractive power, said peripheral portion having a second refractive power which is different from said first refractive power, said peripheral portion extending radially away from said optical axis of said lens beyond the periphery of said anterior optic, so that at least a portion of the light rays incident upon the posterior optic can bypass said anterior optic.

16. (PREVIOUSLY PRESENTED) The lens of Claim 15, wherein said anterior viewing element comprises an optic having a refractive portion.

17. (PREVIOUSLY PRESENTED) The lens of Claim 16, wherein said anterior portion is further configured to move relative to said posterior portion between an accommodated state and an unaccommodated state, said anterior optic and said posterior optic being separated by a greater distance in the accommodated state than in the unaccommodated state.

18. (CANCELLED)

19. (CURRENTLY AMENDED) The lens of Claim 18, said peripheral portion of said posterior viewing element optic has positive refractive power.

20. (PREVIOUSLY PRESENTED) The lens of Claim 1, wherein the force by the ciliary muscle is due to relaxation of the ciliary muscle such that tension is increased in the zonules of the eye.

21. (PREVIOUSLY PRESENTED) The lens of Claim 7, wherein the force by the ciliary muscle is due to relaxation of the ciliary muscle such that tension is increased in the zonules of the eye.

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22. (PREVIOUSLY PRESENTED) The lens of Claim 15, wherein the force by the ciliary muscle is due to relaxation of the ciliary muscle such that tension is increased in the zonules of the eye.

23. (NEW) An accommodating intraocular lens for implantation in an eye having an optical axis, said lens comprising:

an anterior portion comprised of a viewing element, said anterior viewing element comprised of an optic having a refractive power of less than 55 diopters;

a posterior portion comprised of a viewing element;

said lens having an optical axis which is adapted to be substantially coincident with the optical axis of the eye upon implantation of said lens;

said posterior viewing element comprising an optic arranged substantially coaxially with said anterior optic on said optical axis of said lens, said posterior optic having a larger diameter than said anterior optic, said posterior optic comprising a peripheral portion extending radially away from said optical axis of said lens beyond the periphery of said anterior optic;

wherein said anterior portion and said posterior portion are configured to move relative to each other along said optical axis of said lens between an accommodated state and an unaccommodated state in response to action of the ciliary muscle of the eye, said anterior optic and said posterior optic being separated by a greater distance in the accommodated state than in the unaccommodated state.

24. (NEW) The lens of Claim 23, wherein a refractive portion of said anterior optic has a diameter of about 3 millimeters or less.

25. (NEW) The lens of Claim 23, wherein said anterior optic further comprises a peripheral portion extending radially outward from said refractive portion away from said optical axis of said lens, said peripheral portion of said anterior optic having substantially zero refractive power.

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26. (NEW) The lens of Claim 23, wherein said posterior optic further comprises a central portion extending radially inward from said peripheral portion toward said optical axis of said lens, said central portion having a negative refractive power.

27. (NEW) The lens of Claim 23, wherein a refractive portion of said anterior optic has a refractive power of less than 30 diopters.

28. (NEW) The lens of Claim 23, wherein said peripheral portion has positive refractive power.

29. (NEW) The lens of Claim 23, wherein said anterior portion further comprises an anterior biasing element connected to said anterior viewing element.

30. (NEW) The lens of Claim 29, wherein said posterior portion further comprises a posterior biasing element connected to said posterior viewing element.

31. (NEW) The lens of Claim 30, wherein said anterior biasing element and said posterior biasing element are interconnected at first and second apices of said lens.